MEMORANDUM OF UNDERSTANDING
SAN JOAQUIN RIVER MONITORING PROGRAM

REAL-TIME WATER QUALITY MONITORING NETWORK
July 1997

The purpose of this Memorandum of Understanding is to express the commitment of the undersigned parties to the operation, maintenance, and expansion of the San Joaquin River Real-Time Water Quality Monitoring Network. The MOU is designed to allow signatories to be added over time. Support of the program may be in the form of cost-sharing or in-kind services and will be established by separate agreements between the Department of Water Resources and each signatory, consistent with the understanding contained herein.

Preamble

The San Joaquin River is the dominant environmental feature of the San Joaquin Valley. The San Joaquin River is a major hydrologic contributor to the Delta and at times is the dominant environmental influence on the Delta. Its many uses have resulted in a significant degrading of water quality, fish and wildlife habitat, flood protection capacity and recreational opportunities. In 1990, AB 3603 authorized establishment of the San Joaquin River Management Program, established an advisory council, and mandated that the council identify the problems facing the river system and prepare a plan that would identify solutions to improve, restore, and enhance currently degraded conditions.

A Final Plan was prepared and distributed in 1995, identifying almost 80 actions that could significantly improve conditions in the San Joaquin River system. One action was establishing a real-time water quality monitoring network. Through a USBR Challenge Grant, the SJRMP Water Quality subcommittee installed and demonstrated a San Joaquin River Real-Time Water Quality Management Network on a pilot scale. We, the signatories of this MOU, are committed to maintaining and expanding this Network so that it can be used by interested parties to monitor water quantity and quality in the lower San Joaquin River. Interested parties include State and federal water agencies, wildlife managers, irrigation and drainage districts, flood control interests and other entities with the desire to improve SJR water quality.

Real-Time Water Quality Monitoring Network

The San Joaquin River Real-Time Water Quality Monitoring Network is a tool that enables interested parties to make informed water management decisions regarding the San Joaquin River Basin. The Network comprises water quality and quantity instrumentation, as well as a computer model and graphical user interface that facilitates interpretation of the raw data collected. The Network is currently maintained by members of the San Joaquin River Management Program Water Quality Subcommittee. The objective of this subcommittee is to

operate and maintain the Network so that it can be used beneficially by many interested parties to improve water management, thereby benefiting water quality, water supply, wildlife, fisheries, and flood protection in the lower San Joaquin River. This MOU is designed to coordinate the activities of interested parties in reaching this objective.

Activities

The Real Time Water Quality Monitoring Network is composed of the following three main activities:

DATA COLLECTION AND PROCESSING:

Maintain and upgrade equipment needed to provide real-time stage and water quality information at critical sites in the lower San Joaquin River Basin; make frequent flow measurements to maintain accurate rating tables and shift information.

Add equipment to new sites and existing sites to improve reliability of water quality forecasts by narrowing gaps in the current data collection network. Currently, only the bare minimum number of sites are operational. Data for some unmonitored sites must be estimated.

Coordinate monitoring activities of local, State, and federal agencies. Stage and water quality monitoring equipment are currently maintained by several different agencies.

Assemble the collected data at one central location. This includes all raw stage and water quality data from real time monitoring sites as well as information obtained from other interested parties in the Basin.

Check raw data for errors and process data to obtain daily average flow and water quality conditions.

Store raw and processed data in a centralized workstation.

DATA ANALYSIS:

Analyze processed data using SJRIODAY, a simple mass balance hydrologic-routing model, to forecast discharge and water quality along a 60-mile reach of the lower San Joaquin River for base case conditions.

Identify potential water quality, water supply, wildlife, fisheries and flood protection concerns raised during data analysis.

Identify operational changes that can be made to improve water quality conditions in the river.

Make additional SJRIODAY model runs to analyze the impact of various operational changes on San Joaquin River water quality.

DATA DISSEMINATION

Make numerical and graphical information available to interested parties using the Graphical User Interface.

Post water quality forecasts and issues of concern on the Internet. Real time water quality forecasts posted to the Internet will initially be made only in arrears; actual real time forecasts will be made available only to signatories to this MOU.

Solicit interested parties for additional information so that future water quality forecasts can be further improved.

Provide opportunities for user input.

Publish annual operations reports.

Estimates of Funding Requirements

Initial purchase of equipment, development of software and operations costs have been borne by a combination of grant funding and budget allocations by USBR, RWQCB, and DWR. Annual operation of the forecast model and real-time station operation and maintenance is $300,000. An additional $300,000 one-time cost is needed to expand the system to secure more accurate information with installation of additional stations and additional parameters.

Policy and Principles

1. The parties hereto agree that, subject to the availability of appropriations and in accordance with their respective authorities, they will cooperate in establishing and maintaining the SJR Real Time Water Quality Monitoring Network which will carry out the activities described above.

2. The parties hereby commit to participate in the Network and to actively pursue raising funds

to support the Network.

3. The field and office work pertaining to this Network will be subject to periodic review by the SJRMP Water Quality subcommittee to provide Program oversight.

4. The sites or areas to be included in the Network will be determined by mutual agreement among the parties hereto or their authorized representatives. The data collection and analytical methods employed in the field and office will be those adopted by mutual agreement to ensure they comply with the more restrictive quality assurance and quality control standards, subject to modification by mutual agreement if the data collection and analysis authority or responsibility of any party is changed.

5. During the progress of work, all operations of any party pertaining to this Network will be open to the inspection of any undersigned party; and if work is not carried out in a mutually satisfactory manner, any party may terminate participation in this agreement upon 60 days written notice to all the other parties.

6. The original records and documents providing the data and analysis used by the Network will be maintained by the office originating those records and documents. Upon request, arrangements will be made to allow copying of the original records by any signatory of this MOU requesting the documents.

7. The records and forecasts resulting from this Network will be made available to the public as promptly as possible. All records, reports or forecasts published will contain a statement explaining cooperative relations between the parties.

8. DWR will enter into separate cost-share agreements with each of the signatories to this MOU, which will contain terms, conditions, and funding responsibilities.

_____	_____
Director California Department of Water Resources	Regional Director United States Bureau of Reclamation
_____	_____
Executive Director State Water Resources Control Board	Executive Officer Regional Water Quality Control Board, Central Valley Region

_____	_____
Others	Others
_____	_____
Others	Others
_____	_____
Others	Others
_____	_____
Others	Others
_____	_____
Others	Others
_____	_____
Others	Others
_____	_____
Others	Others